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Listing of Claims

The following listing of claims will replace all prior versions, and listings, of claims in the subject application:

1. (currently amended) A region extraction method, by an image processing apparatus, for extracting a specified region in an image, the method including the steps of:

- (a) displaying the image;
- (b) selecting a desired region in the image;
- (c) selecting an element graphic corresponding to at least a partial contour of a partial region in the desired region;
- (d) approximating at least a rectifiable partial contour of the selected element graphic to at least said partial contour of the partial region;
- (e) repeating the steps (c) to (d) at least twice, so that at least two selected element graphics overlap with each other; and
- (f) making a first closed contour by combining at least said rectifiable partial contour of the respective element graphics after the approximation;
- (j) obtaining, by the image processing apparatus, a second closed contour similar to the first closed contour by enlarging or reducing the first closed contour; and
- (k) extracting, by the image processing apparatus, a region including a stratified region held between the first closed contour and the second closed contour.

2. (original) The region extraction method according to claim 1, wherein the step (c) is for selecting the element graphics passing through a plurality of points being placed on at least a

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partial contour of the partial region or the vicinity of them.

3. (original) The region extraction method according to claim 1, wherein the step (c) is for selecting the element graphics passing through one or more curves being placed on at least a partial contour of the partial region or the vicinity of them.

4. (original) The region extraction method according to claim 1, wherein at least either size or shape of two or more of the plurality of element graphics is different from one another.

5. (original) The region extraction method according to claim 1, characterized in that a shape of the element graphic is an ellipse.

6. (previously presented) The region extraction method according to claim 5, wherein the approximation is performed in step (d) by changing the position, size or shape of the ellipse by moving the major axis point, minor axis point or center point of the ellipse or rotating the ellipse around the center point.

7. (previously presented) The region extraction method according to claim 5, wherein the approximation is performed in step (d) by mutually interlocking at least two ellipses.

8. (original) The region extraction method according to claim 1, wherein the step (c) is for displaying the element graphic with the image, and step (d) is for implementing the approximation of the displayed element graphics on the image.

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9. (original) The region extraction method according to claim 1, wherein the following steps are included between the step (b) and the step (c):

(g) a step for displaying at least one patterned graphic formed by a plurality of element graphics being combined;

(h) a step for selecting the one patterned graphic corresponding to the desired region;

(i) a step for displaying at least one of the plurality of element graphics configuring the selected patterned graphic along with the image, and in the step (c), the selection of an element graphic from the displayed element graphics is implemented.

Claims 10 and 11 (canceled).

12. (previously presented) The region extraction method according to claim 1, wherein the step (j) is for obtaining the second contour by changing a position, size or shape of the element graphics that are used upon obtaining the first contour in the step (f).

13. (previously presented) The region extraction method according to claim 1, wherein the step (k) is for extracting one of only the stratified regions, a region on the side of the first contour including the stratified region or a region on the side of the second contour including the stratified region.

14. (currently amended) A region extraction method, by an image processing apparatus, for extracting a specified region in an image, the method including the steps of:

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- (l) displaying the image;
- (m) selecting a desired region in the image;
- (n) extracting, by the image processing apparatus, a plurality of partial regions from the desired region;
- (o) combining the plural partial regions and synthesizing at least parts of the desired region; and
- (p) making at least a partial contour of the synthesized region as a first closed contour;
- (q) enlarging or reducing one or more partial regions with a predetermined magnification;
- (r) combining the one or more enlarged or reduced partial regions, and synthesizing at least a part of a desired region being enlarged or reduced;
- (s) making at least a partial contour of at least a part of the enlarged or reduced desired region similar to the first closed contour as a second closed contour;
- (t) extracting, by the image processing apparatus, a region including at least a stratified region held between the first closed contour and the second closed contour.

Claim 15 (canceled).

16. (previously presented) The region extraction method according to claim 1, in the case there is a plurality of images, wherein the following steps are included after the step (k):

- (u) a step for changing the image and repeating the steps (a)~(k) at least twice;
- (v) a step for synthesizing 3-dimensional regions using the extraction region on each of the images.

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17. (previously presented) The region extraction method according to claim 16, in the case that the plurality of images are tomographic images being mutually different slices, wherein the following step is included between the steps (u) and (v):

(w) a step for obtaining the first contour, the second contour and the stratified region, of the region where the first contour was not able to be obtained, based on the first contour in the slice of which the first contour was able to be obtained.

18. (original) The region extraction method according to claim 16, in the case that the plurality of images are the tomographic images being mutually different slices, wherein the following step is included between the steps (u) and (v):

(x) a step for obtaining the stratified region of the region where the stratified region was not obtained, based on the stratified region in the slice of which the stratified region was obtained.

19. (currently amended) A region extraction device comprising:

a display means for displaying an image, and displaying a plurality of element graphics along with the image;

an input means for receiving a selection of a desired region in the image and a selection of an element graphic corresponding to at least a partial contour of a partial region in the desired region, the input means receiving at least two selections of element graphics;

a calculating means for executing a desired image processing relating to the image, wherein:

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the calculating means, for each of the at least two selected element graphics, approximates at least a rectifiable partial contour of the selected element graphics to at least a partial contour of the desired region, so that at least two selected element graphics overlap with each other,

the calculation means makes a first closed contour by combining at least said rectifiable partial contour of the respective element graphics after the approximation, obtains a second closed contour similar to the first closed contour by enlarging or reducing the first closed contour, and

extracts a region including at least a stratified region held between the first closed contour and the second closed contour.

Claim 20 (canceled).